UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R048BY002NM

Site Name: Pine Grassland

Precipitation or Climate Zone: 16 to 30 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on nearly level to gently rolling landscapes and broad mountain valleys. Slopes range from 3 to 15 percent. Elevation ranges from 7,800 to 9,000 feet above sea level.

Land Form:

1. Mountainside
2. Mountain valley
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	7,800	9,000
Slope (percent)	3	15
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	N/A	N/A
Duration	N/A	N/A

Ponding:	**Minimum**	**Maximum**
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

The climate is characterized by cold, wet winters in which more than 50 percent of the total annual precipitation is received during the winter. The balance of the precipitation is received in the summer months, some of it in the form of high intensity thunderstorms. Average annual precipitation is about 22 inches but ranges from 16 to 30 inches and yearly fluctuations are common.

The average frost-free period is about 80 days but ranges from 60 days at the highest elevations to 110 days at the lowest elevations; however, the period lengths vary. The average last killing frost in the spring occurs about June 10th. The average first killing frost in the fall occurs about September 20th. Average annual air temperature is 22.6 degrees F in January and 64.5 degrees F in July with extremes ranging from -40 degrees F to 95 degrees F.

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	67	93
Freeze-free period (days):	95	115
Mean annual precipitation (inches):	16	30

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	0.67	1.91	2.1	39.7
February	0.61	1.70	7.0	44.1
March	1.01	1.85	14.5	50.5
April	0.97	1.75	21.8	60.1
May	0.99	1.79	28.7	69.9
June	0.83	1.29	35.0	80.6
July	1.81	2.90	40.8	85.2
August	2.34	3.18	40.2	82.1
September	1.25	1.98	32.9	76.1
October	0.96	1.72	22.5	65.7
November	0.74	1.37	13.5	51.3
December	0.70	1.79	4.8	41.9

Climate Stations:

				Period		
Station ID	291664	Location	Chama, New Mexico	From: 01/01/14	To:	12/31/01
Station ID	292700	Location	Eagle Nest, New Mexico	From: 11/01/37	To:	12/31/01
Station ID	292837	Location	El Vado Dam, New Mexico	From: 09/01/23	To:	12/31/01
Station ID	297323	Location	Red River, New Mexico	From: 01/01/15	To:	12/31/01

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils are moderately deep to deep. Soils on the steeper slopes are shallower and higher in coarse fragments than the more level terrain. Surface textures range from sandy loams to clay loams. Subsoils range from loam to clay and silty clay loams. Permeability is slow to moderate. Available water-holding capacity is moderate to high. Runoff is slow to medium depending on slope and vegetative cover.

Parent Material Kind: Colluvium
Parent Material Origin: Mixed

Surface Texture:

1. Sandy loam
2. Loam
3. Clay loam

Surface Texture Modifier:

1. Gravel
2.
3.

Subsurface Texture Group: Loamy
Surface Fragments <=3" (% Cover): 15 to 35
Surface Fragments >3" (% Cover): 15 to 35

Subsurface Fragments <=3" (%Volume): 15 to 35
Subsurface Fragments >=3" (%Volume): 15 to 35

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Impremeable	Moderate
Depth (inches):	60	>72
Electrical Conductivity (mmhos/cm):	0.00	2.00
Sodium Absorption Ratio:	0.00	5.00
Soil Reaction (1:1 Water):	6.1	7.8
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	6	12

Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
This is a savannah-type site with a cool-season grass understory and overstoried predominantly by ponderosa pine. Rocky Mountain juniper and Gambel oak are minor components of the overstory. Shrubs are a minor component on the site. Forbs, when in bloom, are usually detectable.

Canopy Cover:	
Trees, shrubs and half-shrubs (average)	12 %
Ground Cover (Aveage Percent of Surface Area).	
Grasses & Forbs	33
Bare ground	32
Surface gravel	7
Surface cobble and stone	3
Litter (percent)	25
Litter (average depth in cm.)	5

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	640	840	1,040
Forb	40	53	65
Tree/Shrub/Vine	80	105	130
Lichen			
Moss			
Microbiotic Crusts			
Total	800	1,050	1,300

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	FEAR2	Arizona Fescue	158 – 210	158 – 210
2	PASM	Western Wheatgrass	84 – 126	84 – 126
3	BLTR POFE KOMA	Pine Dropseed Muttongrass Prairie Junegrass	84 – 126	84 – 126
4	ACNEN2	Columbia Needlegrass	53 – 105	53 – 105
5	MUMO	Mountain Muhly	32 – 74	32 – 74
6	HECO26	Needleandthread	32 – 74	32 – 74
7	FETH	Thurber Fescue	32 – 74	32 – 74
8	ELEL5	Bottlebrush Squirreltail	32 – 53	32 – 53
9	BOGR2 PLJA	Blue Grama Galleta	32 – 53	32 – 53
10	CAREX	Sedge spp.	0 – 32	0 – 32
11	2GRAM	Other Grasses	32 – 74	32 – 74

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
12	ARAN7 ERIOG ERIGE2 CACO17 ACMI2 2FORB	Silverleaf Cinquefoil Wildbuckwheat spp. Fleabane Indian Paintbrush Western Yarrow (Common) Other Forbs	32 – 74	32 – 74

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
13	ATCA2 KRLA2	Fourwing Saltbush Winterfat	11 – 53	11 – 53
14	ARTR2 CHRYS	Big Sagebrush (Mountain) Rabbitbrush spp.	11 – 32	11 – 32
15	QUGA JUSC2	Gambel Oak Rocky Mountain Juniper	0 – 32	0 – 32
16	PIPO	Ponderosa Pine	0 – 11	0 – 11
17	2SD	Other Shrubs	0 – 32	0 – 32

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other species that could appear on this site include: Indian ricegrass, little bluestem, spike muhly, sleepygrass, sideoats grama, mariposa lily, geranium, thistle spp., cudweed sagewort, fringed sagewort, alumroot, skunkbush sumac, currant, snowberry and serviceberry.

Plant Growth Curves

Growth Curve ID **3302NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **Grassland overstoried by ponderosa pine with minor components of shrubs and forbs.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	5	10	25	30	15	7	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitats which support a resident animal community that is characterized by mule deer, red fox, porcupine, Colorado chipmunk, northern pocket gopher, deer mouse, great horned owl, slicker, turkey and mountain chickadee. These sites are used for breeding by western bluebird, Brewer's blackbird, robin and violet-green swallow. These sites are important wintering areas for elk.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations

Soil Series	Hydrologic Group
Cajete	B
Cherry	?
Cobba	?
Cosey	B
Roques	D
Tajila	?
Widen	?

Recreational Uses:

This site is well suited to picnicking, camping, hunting and horseback riding. The natural beauty of the site is enhanced by the close proximity to high-mountain settings.

Wood Products:

Ponderosa pine produced on this site is suitable for timber uses. However, quantities of wood products are limited due to low regeneration. This site should not be considered a major source of wood products on a sustained basis.

Other Products:

Grazing:

Approximately 90 percent of the vegetation produced on this site are suitable for grazing or browsing by domestic livestock and wildlife. Grazing distribution need not be a problem as long as water and salt are adequately located.

Deterioration of the potential plant community is indicated by a decrease in Arizona fescue, western wheatgrass, prairie junegrass, muttongrass and pine dropseed. Species that increase include blue grama, galleta, sleepygrass, rabbitbrush and broom snakeweed. A planned grazing system with periodic grazing and rest is best to maintain the natural balance between plant species and to maintain high productivity.

In addition to domestic livestock, this site is well suited to deer, elk, turkey and small mammals.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	**Ac/AUM**
100 - 76	2.2 – 3.0
75 – 51	2.8 – 5.0
50 – 26	4.8 – 9.0
25 – 0	9.0+

Plant Part	Code	Species Preference	Code
Stems	**S**	**None Selected**	**NS**
Leaves	**L**	**Preferred**	**P**
Flowers	**F**	**Desirable**	**D**
Fruits/Seeds	**F/S**	**Undesirable**	**U**
Entire Plant	**EP**	**Not Consumed**	**NC**
Underground Parts	**UP**	**Emergency**	**E**
		Toxic	**T**

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Arizona Fescue	Festuca arizonica	EP	D	D	D	D	D	D	D	D	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	D	P	P	P	D	D	D	D	D	D
Prairie Junegrass	Koeleria macrantha	EP	D	D	D	D	D	D	D	D	D	D	D	D
Muttongrass	Poa fendleriana	EP	P	P	P	P	P	P	P	P	P	P	P	P
Mountain Muhly	Muhlenbergia montana	EP	D	D	D	D	D	D	D	D	D	D	D	D
Columbia Needlegrass	Achnatherum nelsonii	EP	D	D	D	P	P	P	D	D	D	D	D	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Spike Muhly	Muhlenbergia wrightii	EP	D	D	D	D	D	D	D	D	D	D	D	D
Pine Dropseed	Blepharoneuron tricholepis	EP	D	D	D	D	D	D	D	D	D	D	D	D
Winterfat	Krascheninnikovia lanata	L/S	D	D	D	P	P	P	P	P	P	D	D	D
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	P	D	D	D	D	D	D	P

Animal Kind: Livestock
Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Some Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	P	D	D	D	D	D	P	P
Winterfat	Krascheninnikovia lanata	L/S	P	P	P	P	P	P	P	P	P	P	P	P
Fringed Sagewort	Artemisia frigida	L/S	D	D	D	U	U	U	U	U	U	D	D	D
Muttongrass	Poa fendleriana	EP	P	P	P	P	P	P	P	P	P	P	P	P
Prairie Junegrass	Koeleria macrantha	EP	D	D	D	D	D	D	D	D	D	D	D	D
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	D	D	D	D	D	D	U
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Pine Dropseed	Blepharoneuron tricholepis	EP	D	D	D	D	D	D	D	D	D	D	D	D
Spike Muhly	Muhlenbergia wrightii	EP	D	D	D	D	D	D	D	D	D	D	D	D
Sedges	Carex spp.	EP	U	U	D	D	D	U	U	U	U	U	U	U

Animal Kind: Wildlife
Animal Type: Elk

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Wheatgrass spp.	Pascopyrum spp.	EP	D	D	D	P	P	P	D	D	D	D	D	D
Bromegrass spp.	Bromus spp.	EP	D	D	D	D	D	D	D	D	D	D	D	D
Fescue spp.	Festuca spp.	EP	D	D	D	D	D	D	D	D	D	D	D	D
Needlegrass	Achnatherum spp.	EP	D	D	D	D	D	D	D	D	D	D	D	D
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Clover	Trifolium spp.	EP	P	P	P	P	P	P	P	P	P	P	P	P
Marigold spp.	Baileya spp	EP	U	U	D	D	D	D	D	D	D	D	D	U

Animal Kind: Wildlife
Animal Type: Mule Deer

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Serviceberry	Amelanchier utahensis	L/S	P	P	P	P	P	P	P	P	P	P	P	P
Currant	Ribes montigenum	L/S	U	U	D	D	D	D	D	D	U	U	U	U
Winterfat	Krascheninnikovia lanata	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Snowberry	Symphoricarpos albus	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Skunkbush Sumac	Rhus trilobata	L/S	P	P	P	P	P	P	P	P	P	P	P	P
Buckthorn	Frangula spp.	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Wildbuckwheat	Eriogonum spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Fleabane	Erigeron spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Larkspur	Delphinium confertiflorum	EP	U	U	D	D	D	D	D	D	U	U	U	U
Bundleflower	Desmanthus spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Globemallow	Sphaeralcea spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Mistletoe	Phoradendron spp.	L	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Astragalus	Astragalus spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Sweet Clover	Melilotus spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Lupine	Lupinus alpestris	EP	U	U	D	D	D	D	D	D	U	U	U	U
Penstemon	Penstemon spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Indian Paintbrush	Castilleja coccinea	EP	U	U	D	D	D	D	D	D	U	U	U	U
Dandelion	Agoseris spp.	EP	U	U	P	P	P	D	D	D	D	D	D	U
Geranium	Geranium spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Fringed Sagewort	Artemisia frigida	L/S	D	D	D	D	D	D	D	D	D	D	D	D
Aster	Aster spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Balsamroot (Arrowleaf)	Balsamorhiza sagittata	EP	U	U	P	P	P	P	P	P	U	U	U	U
Thistle	Cirsium spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Dock	Rumex spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Clover	Trifolium spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Sunflower	Helianthus spp.	EP	U	U	U	U	U	D	D	D	U	U	U	U
Blackmedic	Medicago spp.	L/F	U	U	D	D	D	D	D	D	U	U	U	U
Phlox	Phlox spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Salsify	Tragopogon porrifolius	EP	U	U	D	D	D	D	D	D	U	U	U	U

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: **McKinley, Rio Arriba, Sandoval, Santa Fe, Taos**

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Rocky Mountains 48 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys. Taos, Santa Fe, Rio Arriba, Los Alamos, and Sandoval county surveys.

Characteristic Soils Are:	
Cajete, Cherry, Cobba, Cosey, Roques	Tajila, Widen
Other Soils included are:	

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	03/23/82	Don Sylvester	03/23/82

Site Description Revision:

Author	Date	Approval	Date
Elizabeth Wright	02/26/03	George Chavez	10/31/03